

**Abstract**

A DWDM network supporting first bit rate data streams, the DWDM network comprising a plurality of network hubs interfacing to subscriber line connections, and a core hub for providing cross connections between the network hubs, wherein each of the network hubs comprises a first bi-directional multiplexing unit arranged to multiplex  $n$  subscriber data streams each having a second bit rate which is substantially  $1/n$ th of the first bit rate into a single first bit rate data stream for distribution on the DWDM network, and wherein the core hub comprises a plurality of second bi-directional multiplexing units each for de-multiplexing one of the single first bit rate data streams originating from the network hubs into the subscriber data streams and a switching unit arranged to selectively cross-connect the individual subscriber data streams back to individual ones of the second multiplexing units for distribution of the subscriber data streams to their respective destination network hubs in single first bit rate data streams each comprising  $n$  multiplexed subscriber data streams destined for the same network hub.